prentices, young girls from seventeen to nineteen years of age, not related, from three adjoining villages, who took it in turn to remain in the house and sleep with her, each one week at a time. During their apprenticeship, Miss R. was taken with phthisis, of which she died. In less than two years afterwards, all three apprentices died of phthisis, although in the family-history of each no trace of phthisis existed; and the parents, brothers, and sisters of two are alive and well at this time.

Another interesting case was related by Mr. G. F. Blake of Mosely, Birmingham, in which a perfectly healthy child, with a family-history free from all trace of tubercle, was reported as becoming infected by a phthisical nurse, and having died with profuse hemoptysis, after the disease had run a rapid course.

Dr. Porter gives the following facts which have come under his own observation. He says, "In more than three hundred cases of phthisis, I have kept a record of the family-history, and find that fifty-one per cent of this number were of families in which some other case had occurred. The inquiry extended no farther than to first-cousins. Heretofore this would be accepted as evidence in favor of the heredity of phthisis, but I now believe that in many of these cases the disease was acquired by the carrying of the products of disease to a subject whose physical condition favored its reception and development. I recall the case of Mrs. L., in whose family was no trace of phthisis. Before her marriage, and for several years after, she was the ideal of a healthy woman. Two children were born. Her husband, a well-known city official, had phthisis. Her attendance upon him was constant, and for some months before his death she and the younger child were with him night and day. When called to attend him, I found that he had been substituting for the ordinary cuspidore a newspaper spread upon the floor at his bedside, and this would be loaded with sputa each morning. The case was rapid. The husband died, and within eighteen months Mrs. L. and the younger child also died from phthisis; while the elder daughter, who was comparatively little in the sick-room, still lives, and is well and strong. I have the notes of other instances almost as instructive, but this will suffice."

The author thinks that the disease may be conveyed in two principal ways, — first, by air carrying particles of disease into the respiratory tract; second, by food from infected sources, through the alimentary tract. In reference to these propositions, he says, "The first of these propositions is, I think, proven. Not only are the experiments and records here given powerful affirmations, but there is in the profession a steadily increasing belief in its truth which would require much more negative testimony than has yet been offered. I would not be misunderstood. I do not think that as yet we can sustain the statement that phthisis is contagious, — acquired by mere contact; or infectious, if the term be limited to imply a hidden subtile miasm communicating the disease: but I do hold that particles of matter from the site of disease in a phthisical patient may be carried, planted in suitable soil, and incite phthisis. I cannot think that all are liable to so acquire the disease. I would go further, and say that probably only those may so contract phthisis who have lowered their vitality through previous sickness or long watching in the sick-room, or those who have local congestion or inflammation in the respiratory tract. The fixation of a minute particle of dried sputum from a phthisical cavity, upon a point of irritation in the respiratory tract of a non-phthisical patient, may constitute an effective inoculation."

In reference to the second proposition, that phthisis may be caused by eating the flesh of tuberculous animals, or drinking the milk of tuberculous cows, he thinks this is to be received with the same limitations as the first; i.e., that there are conditions which favor the development already existing in the individual. He offers the following suggestions for the prevention of the extension of the disease: there should be frequent change of the atmosphere in the sick-room, complete disinfection of all clothing or vessels holding expectorated material; and the close confinement of any relative of, or attendant upon, a phthisical patient should be forbidden. He believes the day is at hand when the physician will recognize that it is as much his duty to examine the food that his patient eats, or the milk that is ordered for the sick child, as it is his province to see that the drugs he prescribes are pure and well compounded.

BOOK-REVIEWS.

The Nervous System and the Mind. By CHARLES MERCIER, M.B. London and New York, Macmillan. 8°.

THE announcement of the publication of this work raised great expectations, not alone because, in the interesting development through which the problem of the relations of body and mind is now passing, every promising contribution is certain to arouse great interest, but especially because any systematic treatise written somewhat from the psychological point of view is a great desideratum. The contents of such a work would be suggested by its function, which should be to serve as a propædeutic for the study of psychology, as well as to make clear to the general reader the position of modern science on this all-important question. Dr. Mercier's book does not fill this gap, nor was it intended to do so. His object is a simpler and a narrower one. Realizing the aversion of students of insanity to studies of the normal manifestations of mind, he is desirous of preparing for their special use a work that shall show how unscientific it is to attempt to restore a disordered mind to its normal functioning, without a precise and systematic knowledge of what those normal functions are. The object is certainly a most worthy one, and the more so because Dr. Mercier makes no secret of advocating the study of the philosophical aspects of mind on the part of medical students; not that he has any intentions of deluging them with metaphysics, but simply to impress them with the intimate relation of the problems with one aspect of which their specialty is concerned to the broad culture problems of humanity.

When we pass from the design to the execution, the work begins to be a disappointment. To enable the prospective reader of the work to judge of the validity of this verdict, a brief sketch of the contents of the book may be of service. The work contains three parts; the first treating of the physical and physiological functions of the nervous system, the second of its psychological functions, and the third of mind. Before starting upon the consideration of nervous function, we are gravely warned to bear well in mind the supreme and absolute distinction between mental and physical phenomena: the two are utterly heterogeneous, disparate, incommensurable; and all that we know is the parallelism that exists between them. With this distinction and this concomitance well impressed, the author is sanguine enough to believe that "the student will enter on the study of psychology with half his difficulties already surmounted." Under the head of the physical functions of nervous tissue, the cells and fibres are represented as molecules acted upon by a force, and the attempt is made, by the aid of more or less ingenious analogies, to demonstrate the possibility of the nervous system as we know it acting as the special agent of psychological functions. The most interesting and valuable portion of the book is undoubtedly that on the physiological functions of the nervous system; and much of this value is derived from the incorporation of Dr. Hughlings-Jackson's views on the interpretation of movements in terms of nervous discharges. The important distinction between 'central' and 'peripheral' movements is admirably described. On entering the psychological portion of the work, we feel at once the atmosphere that surrounds disciples of Mr. Herbert Spencer. As long as the general line of thought due to Mr. Spencer is applied to the evolution of conduct, or the ever-improving and more and more elaborate adaptation of organism to environment, the result is in more than one sense successful; but in the chapters on 'The Constitution of Mind,' on 'Thought,' on 'Feeling,' and in the three chapters on 'Classification of the Feelings,' the interest becomes a very formal and theoretical one, and amounts to little more than a digest of Spencer somewhat modified and elaborated. It will thus be seen that Dr. Mercier presumes a knowledge of the anatomy and physiology of the nervous system on the part of his readers, and wants to interest them in one particular aspect of their interpretation. This certainly does not appeal to the student of insanity. Not only does Dr. Mercier neglect to consider how very much of what he regards as most important is liable to be entirely modified by future research; but there is a vast and ever-increasing material from which it is being attempted by strictly scientific methods to build up a science of psychology that shall immediately appeal, by its intrinsic importance, to students of psychiatry, and of this development Dr. Mercier takes no

account. This does not detract from the value of the work as a presentation of the 'dynamics of the human organism,' but it certainly does seriously lower its value to the student of mental disease or of psychology in general.

The great desideratum of a work on the relations of body and mind that shall do justice to all the various lines of advance along which research is progressing, and shall succeed in unifying the presentation thus given with perhaps a proper historic setting, remains for the work of another hand. Whether or not the time is ripe for such a contribution is certainly an open question.

Beiträge zur Geophysik. Abhandlungen aus dem geograpischen Seminar der Universität Strassburg. Ed. by Prof. G. Gerland. Vol. I. Stuttgart, Schweizerbart. 8°.

THE present volume is of great interest, even setting aside the scientific value of the papers contained in it. It illustrates the method of geography-teaching at German universities better than any elaborate description could do. As indicated in the title, it contains the results of researches of members of the geographical *Seminar*. The object of these institutions, which exist at every German university, is to teach students the methods of original investigation. The volume under review shows that this method leads to very valuable results. In the introduction, Professor Gerland gives his views on the aim and scope of geography. He is one of the few geographers who would exclude altogether what has been called 'anthropogeography' from the field of geographical researches. We believe that the author, one of Germany's most eminent ethnologists, was led to this conclusion by his intimate knowledge of the methods of ethnology. Recognizing that the latter are anthropologic, psychologic, or linguistic, he has no confidence in the generalizing speculations on the influence of the character of a country upon its inhabitants. On the other hand, he does not consider the methods of geology, so far as they are founded on paleontology, as the proper field of geographical studies, and confines the latter to the study of the problems of geophysics; i.e., the study of the physical and chemical forces as acting upon the earth. The essays contained in this volume treat exclusively this class of problems. Dr. H. Blink contributes an elaborate paper on the winds and currents of the region of the Lesser Sunda Islands, which he tries to explain according to Zöppritz's theory of currents and by considering the tides of this region. The influence of accumulations of polar ice during the glacial period is ably discussed by Dr. H. Hergesell. He shows that the changes in the levels of the sea are far too great to be explained by the attraction of polar ice and by the decrease of the amount of ocean-water, caused by their formation. The same author shows that it is extremely improbable that a river could reverse its course by the attractive action of the ice of the glacial period. The concluding paper of the volume is a discussion and compilation on submarine earthquakes and volcanic eruptions, by Dr. E. Rudolph, which is accompanied by very interesting maps. The author's discussion of the theory of the earthquake-waves is of great importance. These brief remarks show both that the volume contains papers of great importance, and the high standard of the work done in the seminary of the University of Strassburg. It may be expected that the subsequent volumes will be of equal interest and importance.

The Geological History of Plants. By SIR J. WILLIAM DAWSON. New York, Appleton. 12°.

THE student of plant-history will find in this volume a compact statement of much of our present knowledge of palæobotany, — a department of science in which the author has for many years occupied a distinguished position as an original investigator. A work of the kind here presented has long been needed, and cannot but meet with much favor from those who have earnestly and often vainly attempted to unite the fragmentary chapters that are found scattered throughout geological treatises and disconnected reports of learned societies. The individual chapters of the book before us not only treat of the geological succession of plant-forms throughout the various geological periods, but enter into a discussion of the structure of the more prominent types of fossil plants, geographical distribution, the conditions attending appearance and extinction, climatic changes, and the evolution of specific types.

The consideration of the theoretical questions constitutes the weakest portion of the work, and probably many will agree that the omission of much that it contains would have proved an advantage rather than otherwise. Professor Dawson apparently is still an anti-evolutionist, as the following quotation (p. 268), unfortunately of that character which bespeaks determined opposition to an idea, seems to show: "I can conceive nothing more unreasonable than the statement sometimes made, that it is illogical or even absurd to suppose that highly organized beings could have been produced except by derivation from previously existing organisms. This is begging the whole question at issue, depriving science of a noble department of inquiry," etc. And further, on p. 271, we find clearly stated his adherence in belief to "something not unlike the old and familiar idea of creation."

Sir William finds much difficulty in explaining non-variation through time on any evolutionary hypothesis of slow modification, and, as one of his *points de résistance*, refers to the oft-quoted identity existing between the plants of the Egyptian tombs and species now living, — a point which has also been forcibly insisted upon by Mr. Carruthers, president of the Linnæan Society; but why we should have expected to find a change in such a comparatively brief period is not stated.

Whatever position the author himself may hold in the matter of evolution, it appears more than likely that the intelligent student of his work will agree with a recent critic that "the evolution of species from species is apparent in every page of Sir J. W. Dawson's work."

Yankee Girls in Zulu Land. By LOUISE VESCELIUS-SHELDON. New York, Worthington. 12°. $2.25.

THE author tells the experiences of three American ladies travelling in South Africa in so charming a style and good humor, and with such vividness, that it is very pleasant and instructive to follow her on her adventurous expeditions through the Cape Colony and the Dutch republics. While her description of Cape Town, of its European, Malayan, and African inhabitants, attracts us, the book becomes even more interesting when she describes her journey by stage-coach from Beaufort to the diamond-mines of Kimberley, and the social life at this place. From Kimberley they visited Potchefstrom and Pretoria in Transvaal, which was at the time of their visit occupied by the English. The author describes the prevailing discontent, and is full of praise of the beauties of the Transvaal. She is equally enchanted by the inhabitants and climate of the Orange Free State. From here the enterprising ladies made a long journey by ox-wagon; and the character of the land, the violent thunder-storms and sudden floods, are so graphically described, that the reader will feel well repaid. The attractiveness of the book is principally founded on the simplicity of the manner in which the author's experiences are told. Although it is not filled with statistics and treatises on the forms of government, it creates, by the truthfulness of the descriptions, a vivid and instructive picture of the forms of life and state of affairs in South Africa.

Irish Wonders. By D. R. MCANALLY, Jun. Boston, Houghton, Mifflin, & Co., 1888. 8°. $2.

THE author, who paid a lengthy visit to Ireland, in course of which he traversed the island from end to end, has collected a considerable amount of Irish folk-lore, which he presents in this volume. Most of the tales are attached to certain places which the author visited, and, according to his statement, they are told in the same form in which the Irish story-teller told them: "Go where you will in Ireland, the story-teller is there, and on slight provocation will repeat his narrative; amplifying, explaining, embellishing, till from a single fact a connected history is evolved, giving motives, particulars, action, and result, the whole surrounded by a rosy wealth of rustic imagery and told with dramatic force an actor might envy." The story-tellers who told Mr. McAnally these legends mixed a good deal of politics with their tales, abusing the English landlord, and pleading for home rule. The author inserts the tunes and texts of a number of songs in his book, which are of considerable interest, the fairy dance on p. 26 being of particular value. The piano accompaniment of the song on p. 164 can hardly be approved. The book contains a number of legends referring to Satan and the saints, others on the pooka, fairies, and